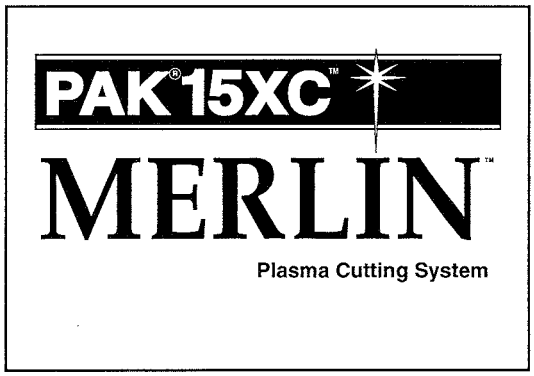
THERMAL DYNAMICS®

RC 6045
REMOTE CONTROL
Instruction Manual



For use with Stak Pak and Merlin Plasma Cutting Systems

First Edition • September 1994

Manual No. 0-2421

WARNING Read and understand this entire instruction manual and your employer's safety practices before installing, operating, or servicing the equipment.

WARNING While the information contained in this instruction manual represents our best judgement, Thermal Dynamics Corporation assumes no liability for its use.

STAK PAK™ RC 6045 Remote Control
Instruction Manual Number 0-2421

Published by:
Thermal Dynamics Corporation
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Printed in the United States of America

First Edition
September, 1994

RECORD SERIAL NUMBERS FOR WARRANTY PURPOSES

PURCHASE DATE	
SERIAL NUMBER	

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NOTES, CAUTIONS, AND WARNINGS

Throughout this manual, notes, cautions, and warnings are used to highlight important information. These highlights are categorized as follows:

NOTE — An operation, procedure, or background information which requires additional emphasis or is helpful in efficient operation of the system.

CAUTION — A procedure which, if not properly followed, may cause damage to the equipment.

WARNING — A procedure which, if not properly followed, may cause injury to the operator or others in the operating area.

IMPORTANT SAFETY PRECAUTIONS

WARNING Operation and maintenance of plasma arc equipment involves potential hazards. All operators and personnel should be alerted to possible hazards and precautions should be taken to prevent possible injury.

Gases and Fumes

GASES AND FUMES produced during the plasma cutting process can be dangerous and hazardous to your health.

- Ventilation must be adequate to remove gases and fumes during operation. Threshold limit values and how to measure the amounts to assure adequate ventilation are found in publication (A), page vi.
- Vapors of chlorinated solvents can form the toxic gas phosgene when exposed to ultraviolet radiation from an electric arc. Solvents, degreasers, and potential sources of these vapors must be removed from the cutting area.
- Keep all fumes and gases from the breathing area.
- Use a downdraft cutting table or water table to capture fumes and gases.
- Use an air-supplied respirator if ventilation is not adequate to remove all fumes and gases.
- Oil or grease in the presence of oxygen may ignite and burn violently. Keep cylinders, valves, couplings, regulators, hoses, and other apparatus clean and free from oil and grease. Oxygen cylinders and apparatus should not be handled with oily hands or gloves. Do not allow an oxygen stream to contact oily or greasy surfaces.
- Do not use oxygen as a substitute for compressed air.

Arc Rays

ARC RAYS can injure eyes and burn skin.

- Use a welding shield with proper filter. A #4 filter or darker is recommended for drag cutting. A #10 filter or darker is recommended when cutting with a standoff.
- Wear proper protective clothing.
- Make sure others in the operating area are protected from arc rays.

Electric Shock

ELECTRIC SHOCK can kill.

- Install and maintain equipment according to USA Standard C1, National Electric Code.
- Proper grounding procedures must be adhered to when using plasma arc cutting equipment. The workpiece must be grounded to a solid electrical ground.
- Do not contact electrically live parts. Do not touch torch parts when input power is present in the power supply.
- Insulate yourself and others from the workpiece and ground.
- Replace any cracked or damaged insulating parts including torches, hoses, and leads.
- Disconnect power source before disassembling the torch. Turn off primary power before working on torch parts, including changing cups and tips.
- The shield cup must be installed prior to operating the torch.
- When operating plasma arc cutting equipment in a damp or wet area, extra care should be taken.
- Use this equipment for plasma cutting and gouging only. It is not designed for any other cutting or welding process.
- Use only the torches specified in this instruction manual.

Fire And Explosion

FIRE AND EXPLOSION can be caused by hot slag and sparks.

- Remove combustibles from working area or provide a fire watch.
- Do not cut containers that have held combustibles. Remove all flammable and combustible materials in the operating area that may be ignited by sparks.
- Do not mount this equipment over combustible surfaces.
- Hydrogen gas may be formed and trapped under aluminum workpieces when they are cut underwater or while using a water table. **DO NOT** cut aluminum alloys underwater or on a water table unless the hydrogen gas can be eliminated or dissipated. Trapped hydrogen gas that is ignited will cause an explosion.

Noise

NOISE can cause permanent hearing loss.

- Wear proper protective ear muffs or plugs.
- Make sure others in the operating area are protected from noise.

Compressed Gas Cylinders

Compressed gas cylinders are potentially dangerous.

Refer to suppliers for proper handling procedures.

Publications

The following publications provide additional information on safety precautions:

(A) Bulletin No. C5.2-83 "Recommended Safe Practices for Plasma Arc Cutting"

(B) American National Standard ANSI Z49.1-1983 "Safety in Welding and Cutting"

Both publications are available from:

American Welding Society Inc.
2501 Northwest 7th Street
Miami, Florida 33125
Telephone (305) 443-9353

(C) OSHA Safety and Health Standards, 29CFR1910 available from:

The U.S. Department of Labor
Washington, D.C. 20210

D) CSA Standard W117.2 "Safety in Welding, Cutting, and Allied Processes" obtainable from:

The Canadian Standards Association
178 Rexdale Blvd.
Toronto, Ontario M9W1R3, Canada

WARNING Read and understand this instruction manual and your employer's safety practices.

PRÉCAUTIONS

AVERTISSEMENT

La mise en oeuvre et l'entretien de tout équipement plasma implique des dangers potentiels. Le personnel doit etre mis en garde contre les risques suivants et toutes les précautions doivent etre prises pour eviter de prendre des risques pour la santé.

Les gaz et les fumees

LES GAZ ET LES FUMEES peuvent etre dangereux et constituer un risque pour votre sante.

- La ventilation doit être suffisante pour évacuer les fumées lors de la coupe. (Dans la publication (A), page ix, vous trouverez la façon de mesurer les quantités permettant d'affirmer que la ventilation est adéquate, ainsi que les valeurs limites à ne pas dépasser.)
- Les vapeurs de solvants chlorés peuvent former un gaz toxique, le Phosgène, lorsqu'elles sont exposées aux radiations ultraviolettes émises par l'arc électrique. Tous les solvants, dégraissants et sources potentielles de ces vapeurs doivent être enlevés de l'aire de coupe.
- Evacuer toutes les fumées et les gaz de l'aire de respiration.
- Utiliser un établi de coupe à tirage vers le bas pour attirer les fumées et les gaz.
- Utiliser un masque aves arrivée d'air si la ventilation n'est pas suffisante pour éliminer tous les gaz et fumées.
- De l'huile ou de la graisse en contact avec l'oxygène peuvent s'enflammer et brûler avec violence. Nettoyez tous cylindres, valves, connecteurs, régulateurs, boyaux et autres appareils afin d'éviter toute trace d'huile ou de graisse.
- Ne jamais manipuler les cylindres ou l'équipement à oxygène avec des mains ou des gants graisseux.
- Evitez que l'oxygène entre en contact avec des surfaces huileuses ou graisseuses.
- Ne pas utiliser l'oxygène pour remplacer l'asair compressé.

PRÉCAUTIONS (continuer)

Les rayons de l'arc

LES RAYONS DE L'ARC peuvent abimer les yeux et bruler la peau.

- Utiliser un écran de soudage muni d'un filtre numéro 4 ou plus sombre en coupant "au contact" ou numéro 10 ou plus sombre en coupant à distance.
- Porter des vêtements protecteurs adéquats.
- Assurez vous que les autres personnes ne soient pas atteintes par les rayons.

Decharge electrique

Une DECHARGE ELECTRIQUE peut tuer.

- Faire l'installation et l'entretien de l'appariel selon les normes du Code Electrique des Etats-Unis (Norme NEC-USA Standard C1), ou celles en vigueur dans votre pays.
- Il faut appliquer les procédures de mise à la terre spécifiques à l'utilisation de dispositifs de coupe au plasma. La pièce ou le métal sur lequel une personne coupe doit être reliée à une bonne prise de terre.
- Ne pas toucher à des pièces sous tension.
- Isolez-vous du courant de coupe et de la terre.
- Remplacer toute pièce isolante fendue ou endommagée, y compris le corps de torche et les câbles.
- Couper l'alimentation avant la depose du chalumeau. Couper l'alimentation avant d'intervenir sur la torche, y compris pour changer la buse ou l'électrode.
- Avant d'utilisere le chalumeau s'assurer que l'ecran de protection est en place.
- Soyez particulièrement vigilant lorsque vous coupez avec un appariel de coupe au plasma dans un endroit humide.

Un encendie et Explosion

Les Etincelles et les scories peuvent provoquer UN ENCENDIE ET EXPLOSIONS.

- Oter tout combustible de l'aire de coupe ou installer un détecteur de flammes.
- Ne pas couper de récipient ayant contenu des combustibles. Tout matériel inflammable ou combustible pouvant être allumé par une étincelle doit être enlevé de l'aire de coupe.
- Le gas hydrogène peut se former ou s'accumuler sous les pièces de travail en aluminium lorsqu'elles sont coupeés sous l'eau ou sur une table d'eau. NE PAS couper les alliages en aluminium sous l'eau ou sur une table d'eau à moins que le gas hydrogène peut s'échapper ou se dissiper. Le gas hydrogène accumulé explosera si enflammé.

Le bruit

LE BRUIT peut causer la surdité.

- Proté des protecteurs auditifs.
- Assuré que tous les autres sont protégé du bruit.

Bouteilles de gaz comprimes

LES RÉSERVOIRS DE GAZ SONT DANGEREUX.

Se référer aux directives du constructeur pour une bonne utilisation.

Les publications

LES PUBLICATIONS suivantes contiennent des renseignements supplémentaires sur les précautions à prendre pour garantir la sécurité.

(A) Bulletin No. C5.2-83 "Recommended Safe Practices for Plasma Arc Cutting"

(B) American National Standard ANSI Z49.1-1983 "Safety in Welding and Cutting"

Vous pouvez vous les procurer toutes les deux auprès de:

American Welding Society Inc.
2501 Northwest 7th Street
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Téléphone (305) 443-9353

(C) OSHA Safety and Health Standards 29CFR 1910, disponible auprès du:

U.S. Department of Labor
Washington DC 20210, USA

(D) Norme de l'ACNOR W117-2, "Safety in Welding, Cutting, and Allied Processes" que l'on peut obtenir auprès de:

L'Association Canadienne Des Normes
178 Rexdale Blvd
Toronto, Ontario, Canada, M9W 1R3

AVERTISSEMENT

Lire et comprendre ce manuel d'instructions, ainsi que les pratiques sur la securite emises par votre employeur.

DECLARATION OF CONFORMITY

Manufacturer: Thermal Dynamics Corporation
Address: Industrial Park #2
West Lebanon, New Hampshire 03784
USA

The equipment described in this manual conforms to all applicable aspects and regulations of the 'Low Voltage Directive' (European Council Directive 73/23/EU, as recently changed in Directive 93/63/EU) and to the National legislation for the enforcement of this Directive.

The equipment described in this manual conforms to all applicable aspects and regulations of the "EMC Directive" (European Council Directive 89/336/EEC) and to the National legislation for the enforcement of this Directive.

Serial numbers are unique with each individual piece of equipment and details description, parts used to manufacture a unit and date of manufacture.

National Standard and Technical Specifications

The product is designed and manufactured to a number of standards and technical requirements among them are:

* CSA (Canadian Standards Association) standard C22.2 number 60-M1990 for Arc welding equipment.

* UL (Underwriters Laboratory) rating 94VO flammability testing for all printed-circuit boards used.

* IEC 974-1 (BS 638-PT10) (EN 60 974-1) applicable to welding equipment and associated accessories.

* Extensive product design verification is conducted at the manufacturing facility as part of the routine design and manufacturing process, to ensure the product is safe and performs as specified. Rigorous testing is incorporated into the manufacturing process to ensure the manufactured product meets or exceeds all design specifications.

Thermal Dynamics has been manufacturing products that perform in a safe manner for more than 30 years and will continue to achieve excellence in our area of manufacture.

Manufacturers responsible representative: David Ashworth
Vice President & Managing Director
Thermadyne Europe
Chorley England

STATEMENT OF WARRANTY

LIMITED WARRANTY: Thermal Dynamics Corporation (hereinafter "Thermal") warrants that its products will be free of defects in workmanship or material. Should any failure to conform to this warranty appear within the time period applicable to the Thermal products as stated below, Thermal shall, upon notification thereof and substantiation that the product has been stored, installed, operated, and maintained in accordance with Thermal's specifications, instructions, recommen dations and recognized standard industry practice, and not subject to misuse, repair, neglect, alteration, or accident, correct such defects by suitable repair or replacement, at Thermal's sole option, of any components or parts of the product determined by Thermal to be defective.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

LIMITATION OF LIABILITY: Thermal shall not under any circumstances be liable for special or consequential damages, such as, but not limited to, damage or loss of purchased or replacement goods, or claims of customers of distributor (hereinafter "Purchaser") for service interruption. The remedies of the Purchaser set forth herein are exclusive and the liability of Thermal with respect to any contract, or anything done in connection therewith such as the performance or breach thereof, or from the manufacture, sale, delivery, resale, or use of any goods covered by or furnished by Thermal whether arising out of contract, negligence, strict tort, or under any warranty, or otherwise, shall not, except as expressly provided herein, exceed the price of the goods upon which such liability is based.

THIS WARRANTY BECOMES INVALID IF REPLACEMENT PARTS OR ACCESSORIES ARE USED WHICH MAY IMPAIR THE SAFETY OR PERFORMANCE OF ANY THERMAL PRODUCT.

THIS WARRANTY IS INVALID IF THE PRODUCT IS SOLD BY NON-AUTHORIZED PERSONS.

The limited warranty periods for Thermal products shall be as follows: A maximum of three (3) years from date of sale to an authorized distributor and a maximum of two (2) years from date of sale by such distributor to the Purchaser, and with the following further limitations on such two (2) year period:

PAK UNITS, POWER SUPPLIES	PARTS	LABOR
MAIN POWER MAGNETICS	2 YEARS	1 YEAR
ORIGINAL MAIN POWER RECTIFIER	2 YEARS	1 YEAR
CONTROL PC BOARD	2 YEARS	1 YEAR
ALL OTHER CIRCUITS AND COMPONENTS INCLUDING, BUT NOT LIMITED TO, STARTING CIRCUIT, CONTACTORS, RELAYS, SOLENOIDS, PUMPS, POWER SWITCHING SEMI-CONDUCTORS	1 YEAR	1 YEAR
CONSOLES, CONTROL EQUIPMENT, HEAT EXCHANGES, AND ACCESSORY EQUIPMENT	1 YEAR	1 YEAR
TORCH AND LEADS	180 DAYS	180 DAYS
REPAIR/REPLACEMENT PARTS	90 DAYS	90 DAYS

Warranty repairs or replacement claims under this limited warranty must be submitted by an authorized Thermal Arc® repair facility within thirty (30) days of the repair. Authorized Thermal Arc® repair facilities are authorized distributors and authorized Thermal Arc® Service Centers. No transportation costs of any kind will be paid under this warranty. Transportation charges to send products to an authorized warranty repair facility shall be the responsibility of the customer. All returned goods shall be at the customer's risk and expense. This warranty supersedes all previous Thermal warranties.

Thermal Arc® is a Registered Trademark of Thermal Dynamics.

Effective January 18, 1991

1.1 GENERAL INFORMATION

RC 6045 Remote Control

The RC 6045 Remote Control extends the necessary system controls away from the power supply. It is provided with any standard machine torch system ordered. The appropriate remote control cable and a CNC cable (if required) must be ordered separately if the RC 6045 is not purchased as part of a system (refer to page 9 for ordering information).

Specifications

Input Power	Supplied by the Power Supply
Controls	START/STOP Emergency Stop (E-STOP) RUN/PURGE (STAK Only) Current Output Corner Slowdown (CSD) Pierce Delay HIGH/LOW Speed Cutting (STAK Only)
Indicators	Amperage (with Preview) Corner Slowdown Indicator PIP Indicator (STAK Only) Start Enable Indicator
Dimensions	2.62 in (66 mm) High 12.12 in (308 mm) Wide 10 in (254 mm) Deep
Weight	5 lbs (2.5 kg)

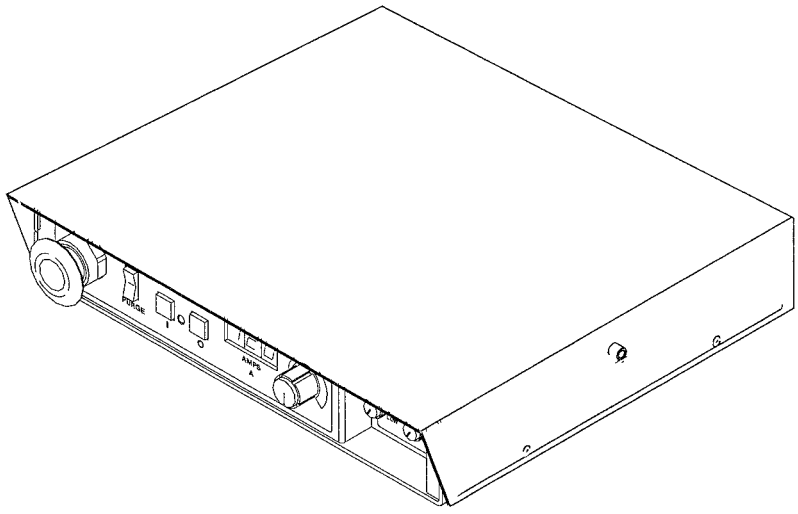


Figure 1-A RC 6045 Remote Control

2.1 INTERNAL SWITCH SETTINGS

Internal Switch Settings

The remote control unit has three internal switches with the following functions:

Switch	Function	Factory Setting
SW1	CNC Station Select CSD Select	Open Contacts (SW1-1 OFF) Closed Contact (SW1-2 OFF)
SW5	CSD Adjustment	Percentage of Main Output
SW6	Power Supply	Corresponds with Catalog No.

To check or change the switch selection, refer to Figure 2-A and:

1. Remove the four cover screws (two mounting screws are located on each side) and remove the upper remote control enclosure.
2. Identify internal switches SW1, SW5, and SW6 and confirm that each switch is set to the desired setting:

NOTE The STAK/MERLIN switch must be set correctly in order for the remote control to function properly.

CNC Station Select/CSD Contact Switch (SW1) - Selects normally open (NO) or normally closed (NC) contacts for corner slowdown and station select.

Activate CNC Function with:	Station Select (SW1-1)	CSD (SW1-2)
Open Contact	OFF	ON
Closed Contact	ON	OFF

Corner Slowdown Mode Switch (SW5) - Corner slowdown may be set as a percentage of main output or independent of main output.

CSD Mode (SW5)	SW5-1	SW5-2
Percentage of Main Output	ON	ON
Independent of Main Output	OFF	OFF

2.1 INTERNAL SWITCH SETTINGS (continued)

Internal Switch Settings (continued)

STAK PAK®/MERLIN™ Switch (SW6) - Selects the type of power supply with which the remote is used.

STAK PAK/Merlin Mode (SW6)	SW6
STAK PAK System	STAK
MERLIN/PAK 15XC System	MERLIN

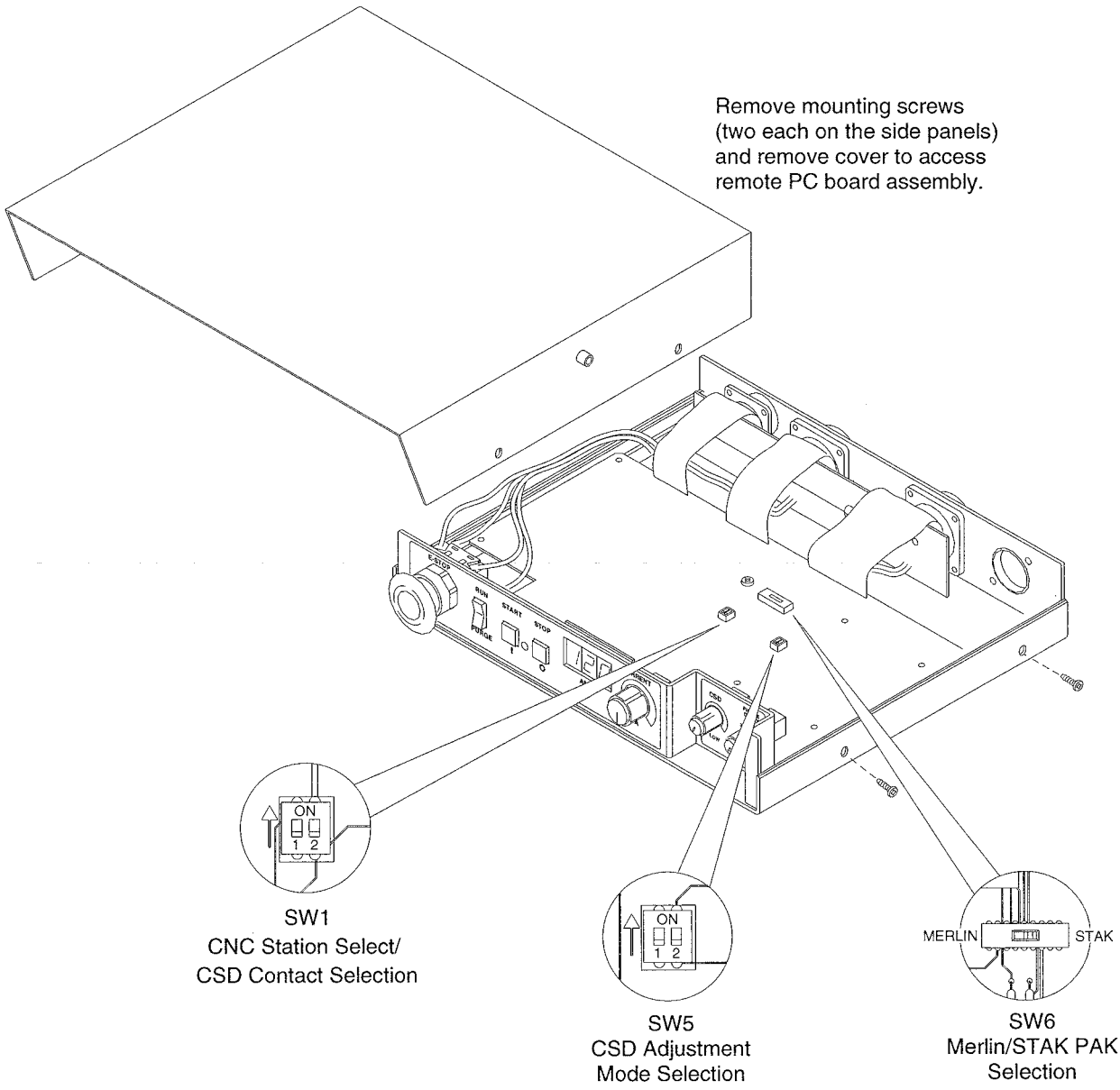


Figure 2-A Internal Switch Settings

2.2 INSTALLATION

Using a 36 VAC OK-to-Move Signal (STAK PAK Only)

For STAK PAK only, the OK-to-move signal may be selected by either a contact closure or 36 VAC switched through the contact. The purpose of selecting 36 VAC is to drive the coil of a relay whose current must not exceed 100 ma.

CAUTION

The relay coil must be isolated from ground or any other circuitry. Failure to do so may blow a fuse in the control module or cause other damage to the system.

For PAK 15XC/Merlin units OK-to-move is available only as a contact closure, except when used with the SC-5 Standoff Control (see SC-5 Instruction Manual).

If using an SC-5 Standoff Control with STAK PAK, OK-to-move on logic PC board must be set for contacts only. The SC-5 can be set for contacts or 24 VAC (see SC-5 Instruction Manual).

Setting the STAK PAK Control Module for 36 VAC Signal

The STAK PAK CM 6030 Control Module is factory-set for contact only. To reset the control module, refer to the STAK PAK Control & Power Components Instruction Manual and:

WARNING

Disconnect primary power at the source before assembling or disassembling stacked modules, individual modules, torch parts, or torch and leads assemblies.

1. Remove the upper enclosure from the control module.
2. Set the control module for 36 VAC as follows:
   a. Locate the logic PC board in the control module
   b. Locate the J1 connector on the logic PC board.
   c. To the right of the connector locate jumper plug J13.
   d. The plug contains two jumper wires which will be pointing down (indicating "contact only" mode). Remove the jumper plug and reinstall it with the jumper wires pointing up to select "36 VAC" mode.
3. Replace the upper enclosure.

Remote Control Installation

Refer to Figure 2-B and:

1. Connect the control cable to the receptacle marked REMOTE (J15) on the rear panel of the power supply.
2. Connect the other end of the control cable to the receptacle marked PS (J37) on the rear panel of the remote control.

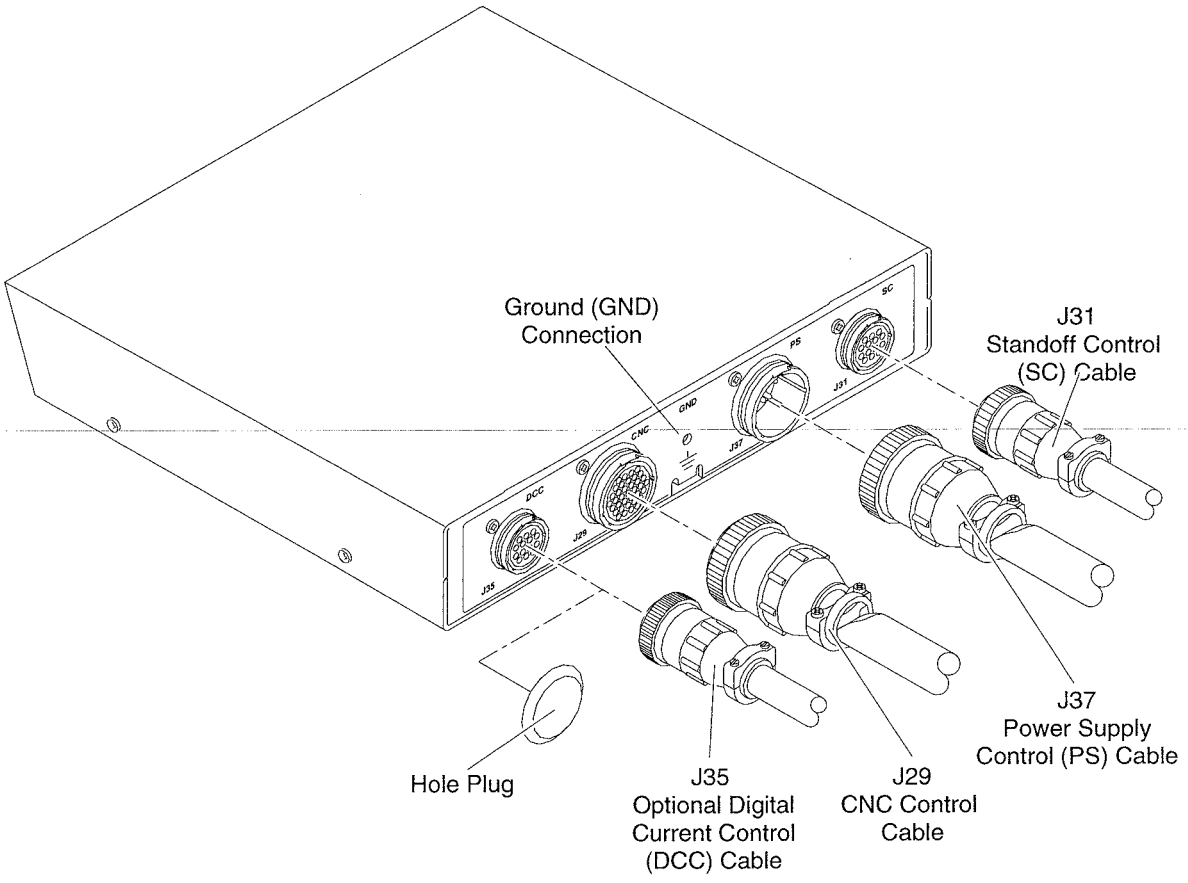
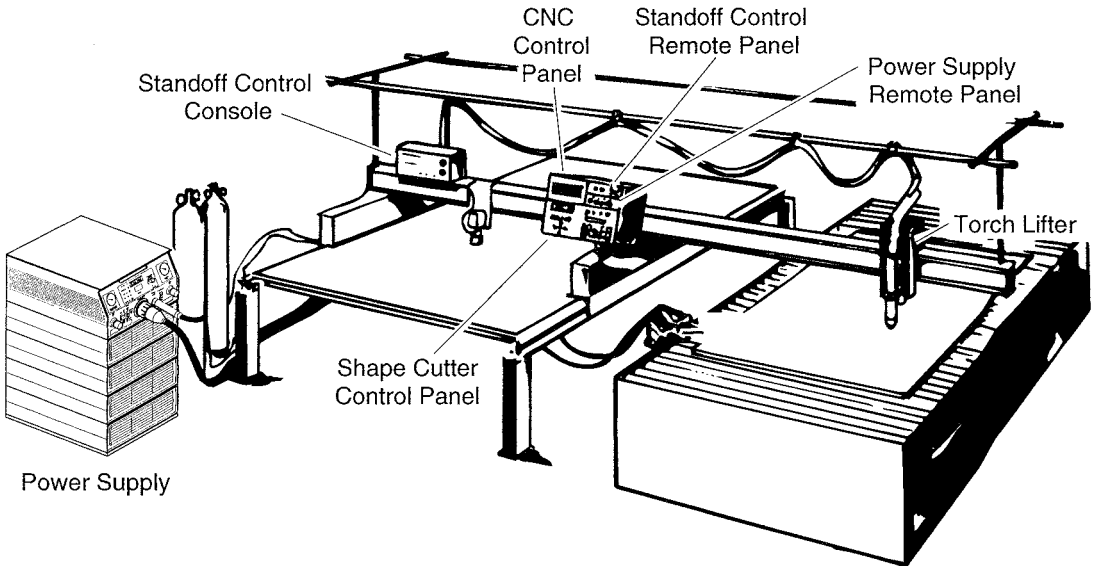
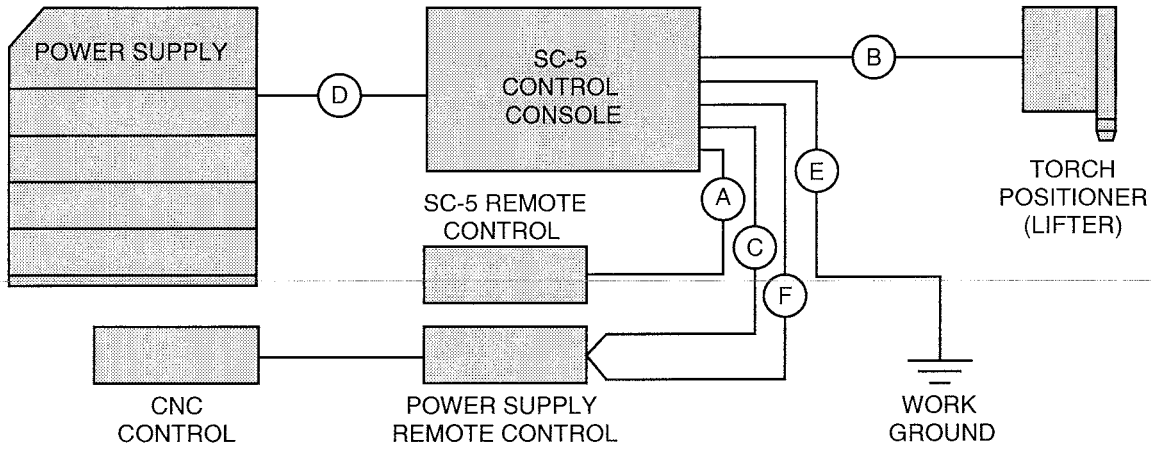

Ground (GND) Connection
J31 Standoff Control (SC) Cable
J37 Power Supply Control (PS) Cable
Hole Plug
J35 Optional Digital Current Control (DCC) Cable
J29 CNC Control Cable

Figure 2-B Rear Panel Connections





Cable Description	Letter Designation
SC-5 Remote to Console	A
SC-5 Torch Lifter (Positioner) to Console	B
SC-5 Console to Power Supply Remote	C/F
SC-5 Console to Power Supply	D
SC-5 Console to Work (Ground)	E

NOTE - See Catalog Pages for ordering information.

Figure 2-C Typical Mechanized System Connections

3.1 OPERATING CONTROLS (continued)

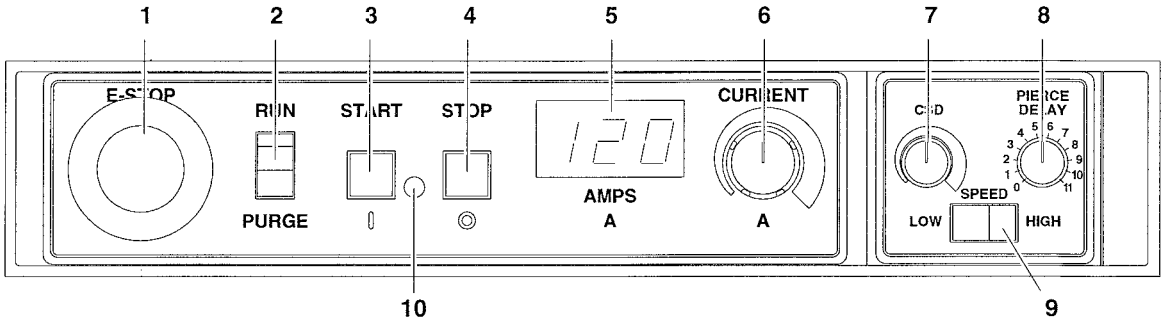


Figure 3-A Remote Control Front Panel

Control Indicator	Function
1. Emergency Stop (E-STOP)	Immediately shuts down all control circuits (only logic circuit and control panel LED display remain on).
2. RUN/PURGE Switch	Functional for STAK PAK only. RUN mode is used for torch operation, PURGE mode is used for purging gas lines.
3. START Control	Activates gas flow, pilot arc, and main cutting arc.
4. STOP Control	Deactivates gas flow, pilot arc, and main cutting arc.
5. AMPS Meter	Displays actual output during cutting operation. Preview mode displays expected output before starting a cut according to the current setting. A decimal point to the right of the display is lit whenever the meter is in preview mode. All three decimal points remain lit when displaying corner slowdown output or operating in corner slowdown mode. Left and center decimal points blinking indicates PIP (parts-in-place) circuit not satisfied.
6. CURRENT Control	Sets output current level.
7. CSD Control	Sets corner slowdown (CSD) output. An internal DIP switch allows CSD output to be set as a percentage of main output or independent of main output. Units are factory set to percentage mode (to check or change the setting, see page 2). Push STOP button to display corner slowdown output setting on amp meter.
8. PIERCE DELAY Control	Provides an adjustable time delay (approximately 0-11 seconds) which delays the CNC and SC-5 OK-to-move signal, allowing time to pierce before the starting the cutting machine. Set PIERCE DELAY to zero for immediate OK-to-move signal.
9. LOW/HIGH SPEED Switch	Functional for STAK PAK only. Sets the pilot pulse rate and the delay to restart pilot at the end of the cut to the optimum settings for low (under 150 ipm) or high (over 150 ipm) travel speeds.
10. START ENABLE Indicator	Green light indicates remote control logic has received start signal from control device (CNC or START switch).

4.1 PARTS LIST

Ordering Information

The parts list provides a breakdown of all replaceable components. Parts listed without item numbers are not illustrated, but may be ordered by the catalog numbers shown (see page 9).

Order replacement parts by catalog number and complete description of the part or assembly, as listed in the description column of the Parts List. Also include the model and serial number of the unit as shown on the data tag on the lower enclosure of the unit. Address all inquiries to your authorized Thermal Dynamics distributor.

Returns

If a Thermal Dynamics product must be returned for service, contact your Thermal Arc distributor. Materials returned to Thermal Dynamics without proper authorization will not be accepted.

Item No.	*Qty.*	*Catalog Number*	*Description*
	1	7-3263	RC 6045 Remote Control
	1	8-5182	Remote Control Cable - 12.5 ft (3.8 m)
	1	8-3252	Remote Control Cable - 25 ft (7.6 m)
	1	8-3254	Remote Control Cable - 50 ft (15.2 m)
	1	8-3253	CNC Interface Cable - 5 ft (1.5 m)
	1	8-3255	CNC Interface Cable - 10 ft (3.0 m)
1	1	9-4523	Enclosure Cover without Brackets
2	1	9-4416	Emergency Stop Switch
3	1	9-6141	Remote PC Board Assembly
4	1	9-4146	Current Control Knob
5	1	9-6142	Pierce Delay Knob
6	1	9-6143	START Button
7	1	9-6144	STOP Button
8	1	9-6142	Corner Slowdown Control Knob
9	1	8-3235	Hole Plug
10	1	9-6145	Brass Standoff
11	4	9-4524	Rubber Feet
	1	9-6147	Front Panel Overlay
	1	9-6148	Setup Panel Overlay
	1	9-6150	Rear Panel Overlay
12	1	9-6151	Wire Harness (Emergency Stop Switch)
13	2	9-4525	Mounting Brackets without Hardware

4.1 PARTS LIST (continued)

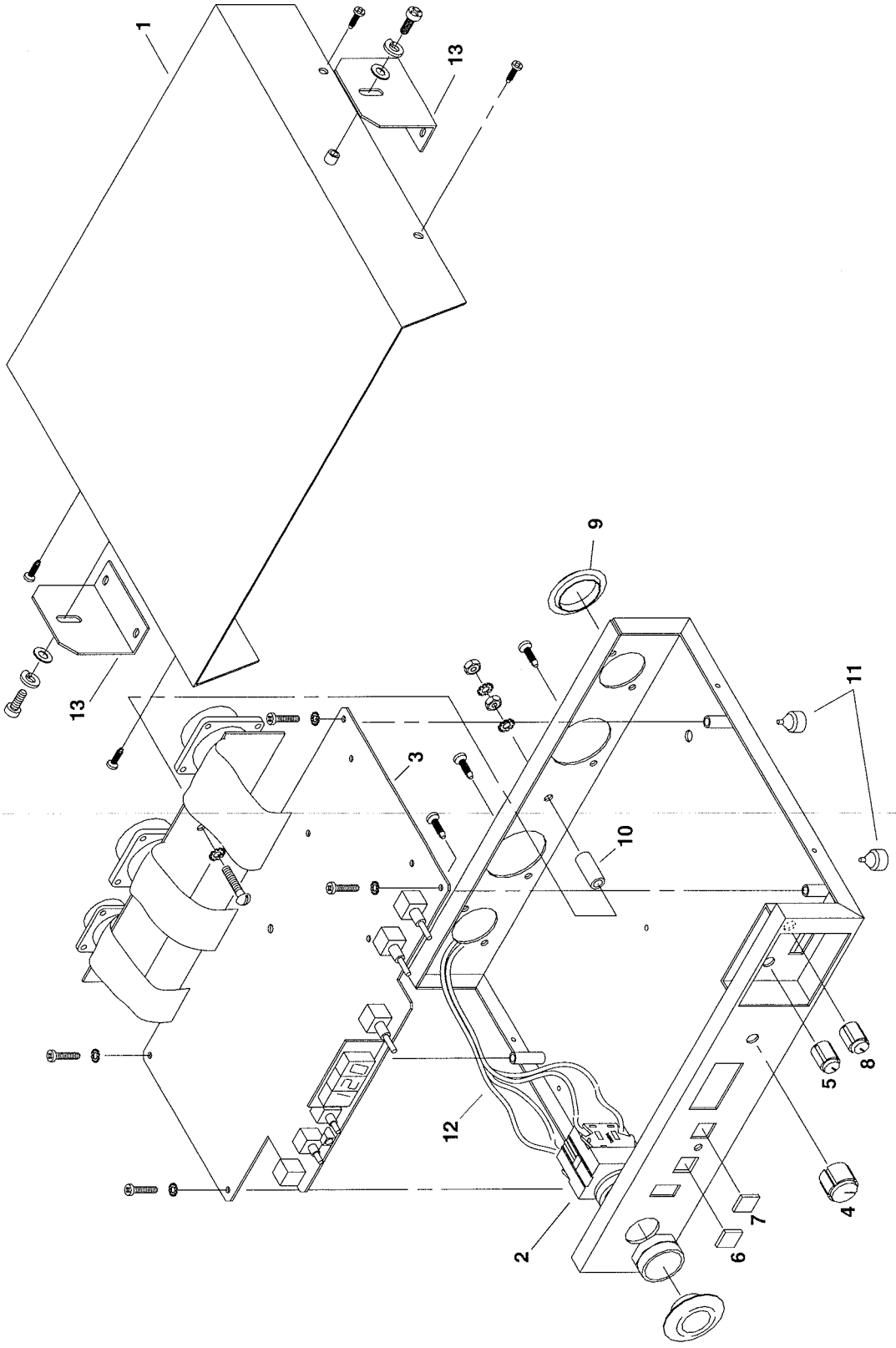
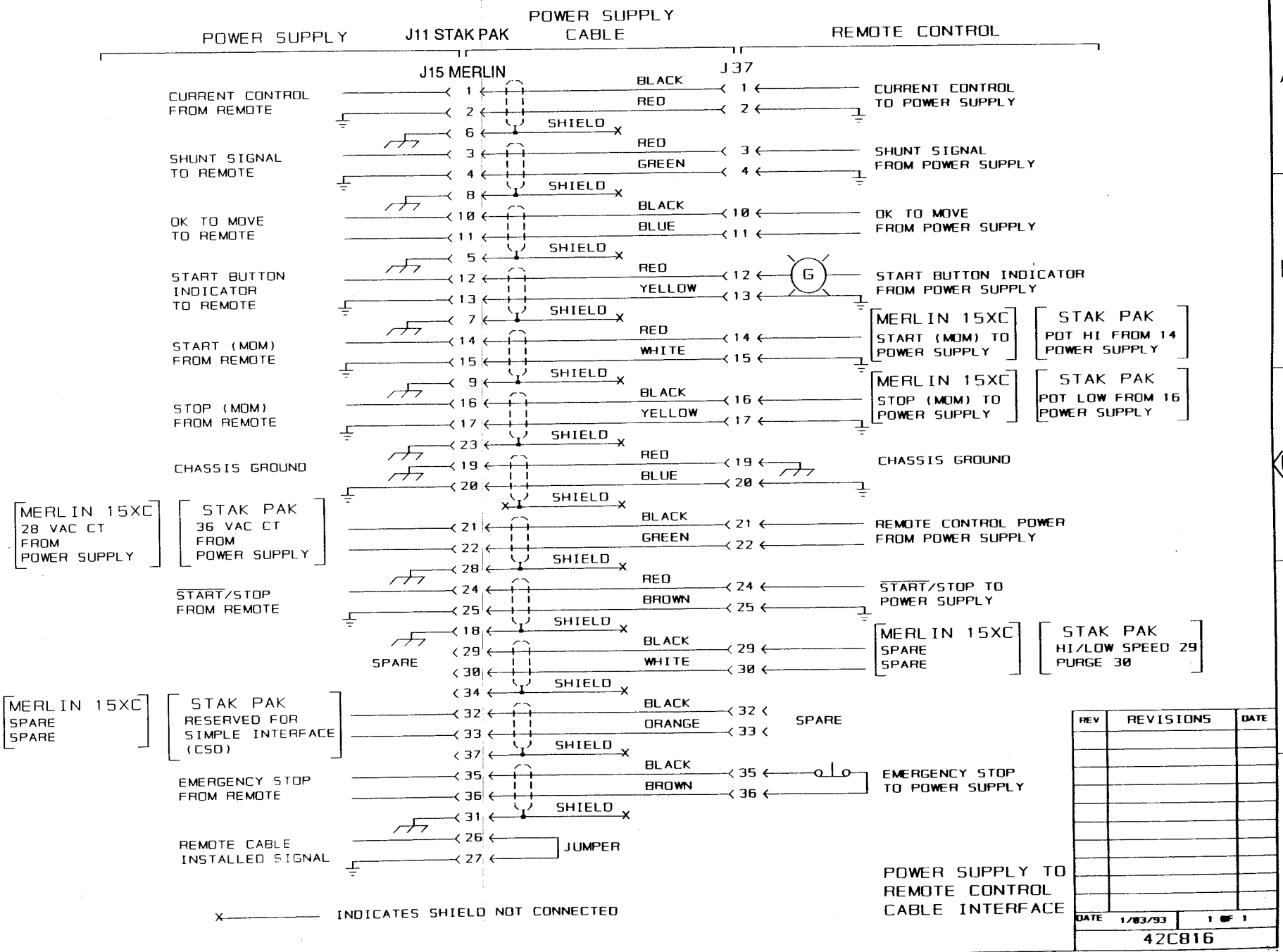
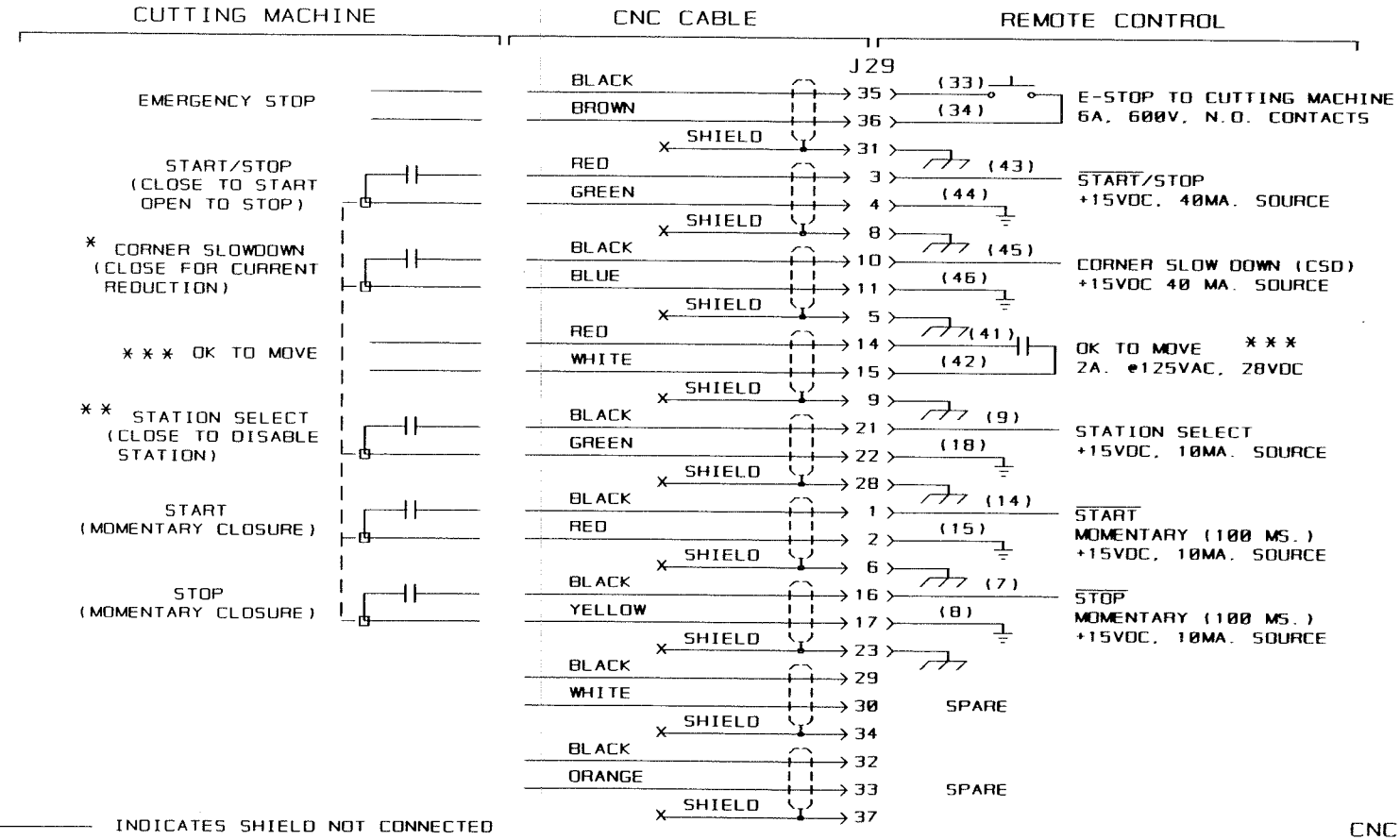


Figure 4-A Remote Control Components


POWER SUPPLY
J11 STAK PAK
POWER SUPPLY CABLE
REMOTE CONTROL
J15 MERLIN
J37
CURRENT CONTROL FROM REMOTE
1
2
BLACK
RED
CURRENT CONTROL TO POWER SUPPLY
SHIELD
6
SHUNT SIGNAL TO REMOTE
3
4
RED
GREEN
SHUNT SIGNAL FROM POWER SUPPLY
SHIELD
8
OK TO MOVE TO REMOTE
10
11
BLACK
BLUE
OK TO MOVE FROM POWER SUPPLY
SHIELD
5
START BUTTON INDICATOR TO REMOTE
12
13
RED
YELLOW
G
START BUTTON INDICATOR FROM POWER SUPPLY
SHIELD
7
START (MOM) FROM REMOTE
14
15
RED
WHITE
MERLIN 15XC
START (MOM) TO POWER SUPPLY
STAK PAK
POT HI FROM 14 POWER SUPPLY
SHIELD
9
STOP (MOM) FROM REMOTE
16
17
BLACK
YELLOW
MERLIN 15XC
STOP (MOM) TO POWER SUPPLY
STAK PAK
POT LOW FROM 16 POWER SUPPLY
SHIELD
23
CHASSIS GROUND
19
20
RED
BLUE
CHASSIS GROUND
SHIELD
MERLIN 15XC
28 VAC CT FROM POWER SUPPLY
STAK PAK
36 VAC CT FROM POWER SUPPLY
21
22
BLACK
GREEN
REMOTE CONTROL POWER FROM POWER SUPPLY
SHIELD
28
START/STOP FROM REMOTE
24
25
RED
BROWN
START/STOP TO POWER SUPPLY
SHIELD
18
SPARE
29
30
BLACK
WHITE
MERLIN 15XC
SPARE
SPARE
STAK PAK
HI/LOW SPEED 29
PURGE 30
SHIELD
34
MERLIN 15XC
SPARE
SPARE
STAK PAK
RESERVED FOR SIMPLE INTERFACE (CSD)
32
33
BLACK
ORANGE
SPARE
SHIELD
37
EMERGENCY STOP FROM REMOTE
35
36
BLACK
BROWN
EMERGENCY STOP TO POWER SUPPLY
SHIELD
31
REMOTE CABLE INSTALLED SIGNAL
26
27
JUMPER
INDICATES SHIELD NOT CONNECTED
POWER SUPPLY TO REMOTE CONTROL CABLE INTERFACE
REV
REVISIONS
DATE
DATE 1/03/93
1 OF 1
42C816



X———— INDICATES SHIELD NOT CONNECTED
SHIELD MUST NOT BE CONNECTED AT CUTTING MACHINE END OF CABLE
BUT REMOTE CONTROL MUST BE GROUNDED FOR BEST NOISE SUPPRESSION

CUTTING MACHINE SIGNAL RETURN LINES MAY BE CONNECTED TO A SINGLE COMMON

* SW1(2) OFF = CLOSED CONTACT FOR CORNER SLOWDOWN
SW1(2) ON = OPEN CONTACT FOR CORNER SLOWDOWN

** SW1(1) OFF = OPEN CONTACT FOR STATION SELECT
SW1(1) ON = CLOSED CONTACT FOR STATION SELECT

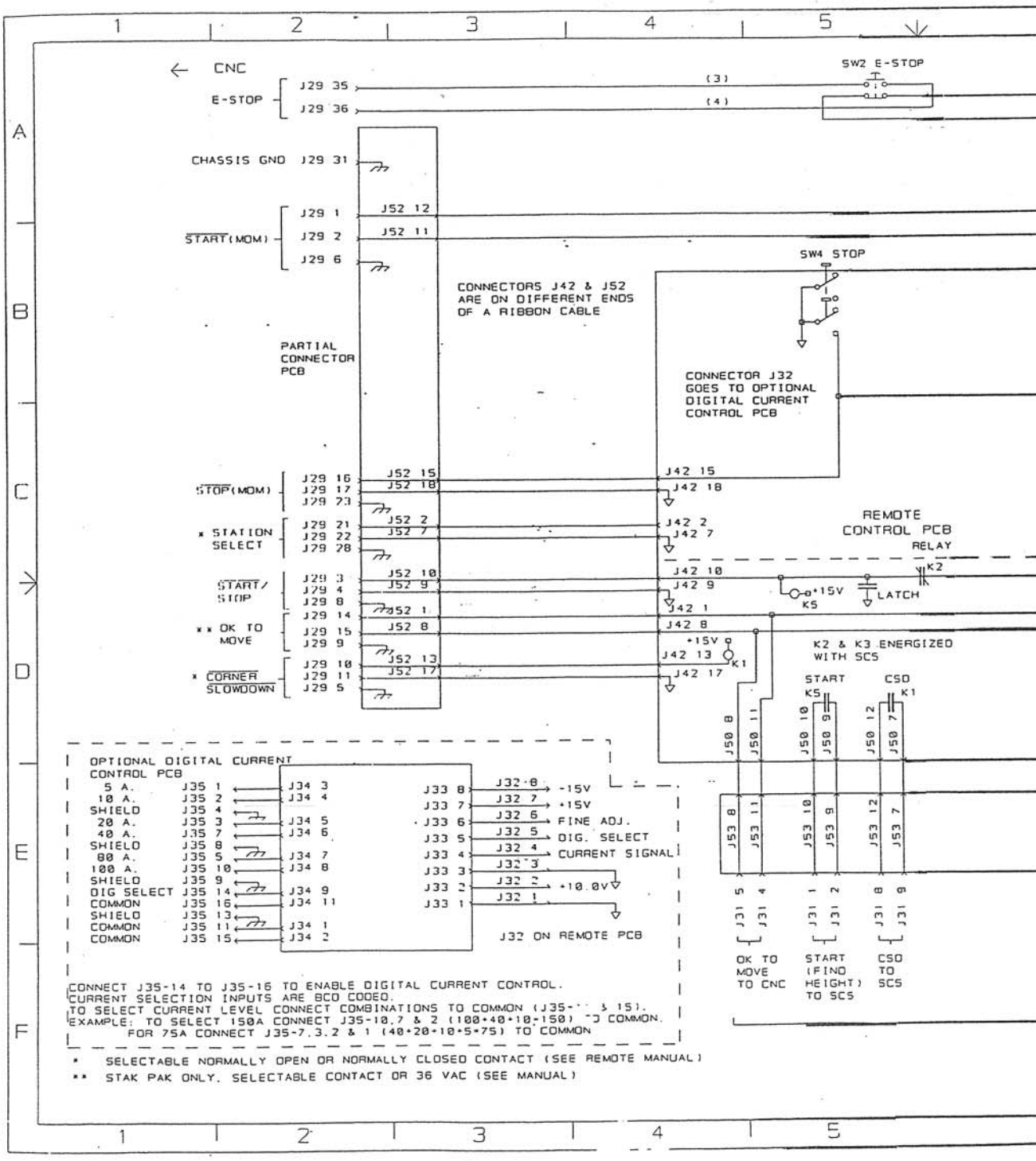
*** IN STAK PAK ONLY, OK TO MOVE SELECTABLE CONTACT OR
OR 36 VAC (MUST BE ISOLATED FROM GROUND)

CNC CABLE
INTERFACE

REV	REVISIONS	DATE

DATE 03/03/93 | 1 OF 1

42C817


CNC
E-STOP
J29 35
J29 36
SW2 E-STOP
CHASSIS GND J29 31
START(MOM)
J29 1
J29 2
J29 6
J52 12
J52 11
SW4 STOP
CONNECTORS J42 & J52 ARE ON DIFFERENT ENDS OF A RIBBON CABLE
PARTIAL CONNECTOR PCB
CONNECTOR J32 GOES TO OPTIONAL DIGITAL CURRENT CONTROL PCB
STOP(MOM)
J29 16
J29 17
J29 23
J52 15
J52 18
J42 15
J42 18
* STATION SELECT
J29 21
J29 22
J29 28
J52 2
J52 7
J42 2
J42 7
REMOTE CONTROL PCB
RELAY
START/ STOP
J29 3
J29 4
J29 8
J52 10
J52 9
J52 1
J42 10
J42 9
J42 1
+15V
K5
K2
LATCH
** OK TO MOVE
J29 14
J29 15
J29 9
J52 8
J42 8
+15V
J42 13
K1
K2 & K3 ENERGIZED WITH SCS
* CORNER SLOWDOWN
J29 10
J29 11
J29 5
J52 13
J52 17
J42 17
START
K5
CSD
K1
J50 8
J50 11
J50 10
J50 9
J50 12
J50 7
OPTIONAL DIGITAL CURRENT CONTROL PCB
5 A.
10 A.
SHIELD
20 A.
40 A.
SHIELD
80 A.
100 A.
SHIELD
DIG SELECT
COMMON
SHIELD
COMMON
COMMON
J35 1
J35 2
J35 4
J35 3
J35 7
J35 8
J35 5
J35 10
J35 9
J35 14
J35 16
J35 13
J35 11
J35 15
J34 3
J34 4
J34 5
J34 6
J34 7
J34 8
J34 9
J34 11
J34 1
J34 2
J33 8
J33 7
J33 6
J33 5
J33 4
J33 3
J33 2
J33 1
J32 8
J32 7
J32 6
J32 5
J32 4
J32 3
J32 2
J32 1
-15V
+15V
FINE ADJ.
DIG. SELECT
CURRENT SIGNAL
+10.0V
J32 ON REMOTE PCB
J53 8
J53 11
J53 10
J53 9
J53 12
J53 7
J31 5
J31 4
J31 1
J31 2
J31 8
J31 9
OK TO MOVE TO CNC
START (FIND HEIGHT) TO SCS
CSD TO SCS
CONNECT J35-14 TO J35-16 TO ENABLE DIGITAL CURRENT CONTROL.
CURRENT SELECTION INPUTS ARE BCD CODED.
TO SELECT CURRENT LEVEL CONNECT COMBINATIONS TO COMMON (J35-
EXAMPLE: TO SELECT 150A CONNECT J35-10,7 & 2 (100+40+10+150) TO COMMON.
FOR 75A CONNECT J35-7,3,2 & 1 (40+20+10+5=75) TO COMMON
* SELECTABLE NORMALLY OPEN OR NORMALLY CLOSED CONTACT (SEE REMOTE MANUAL)
** STAK PAK ONLY. SELECTABLE CONTACT OR 36 VAC (SEE MANUAL)

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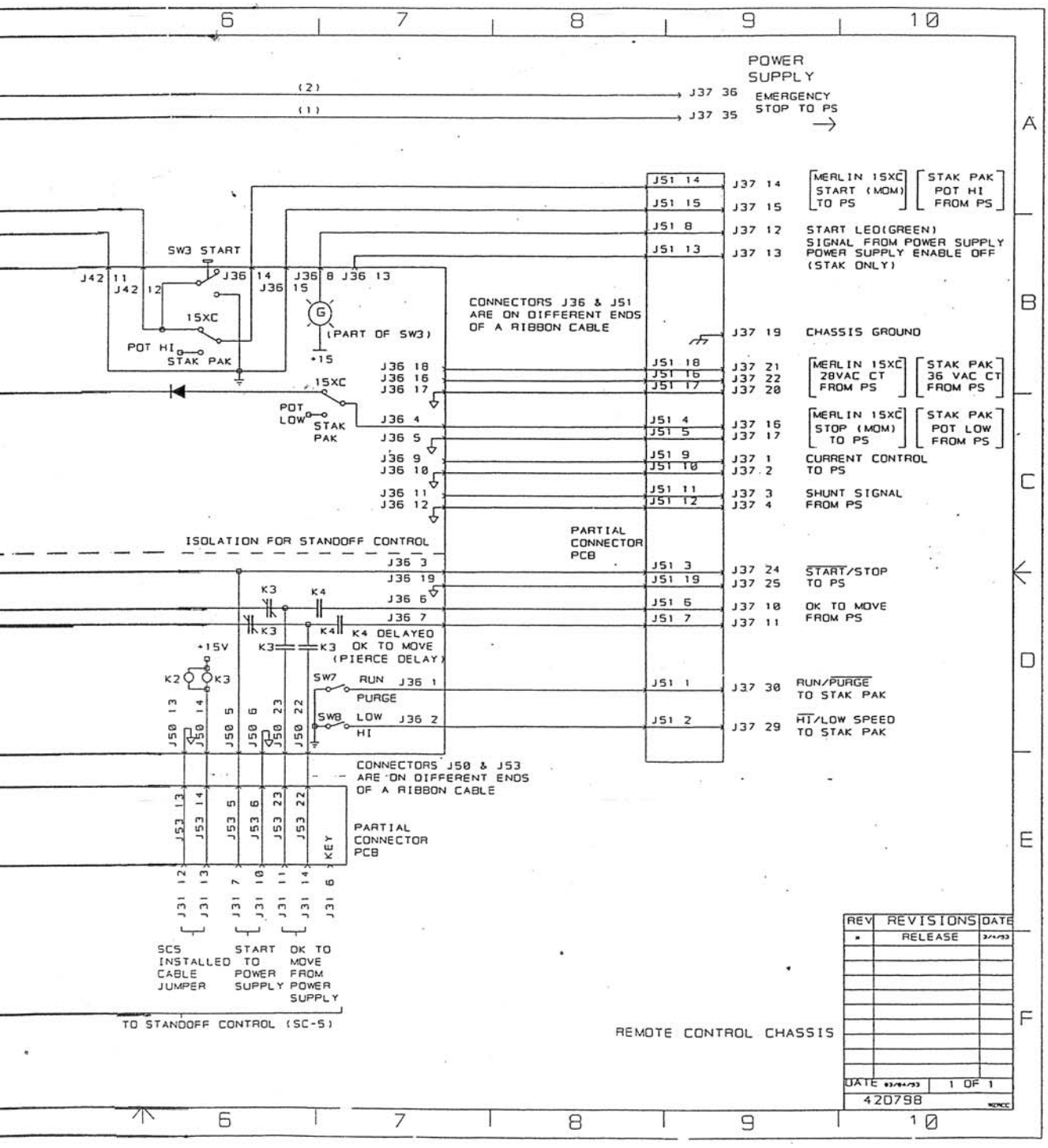
6
7
8
9
10
A
B
C
D
E
F
POWER SUPPLY
(2)
(1)
J37 36
J37 35
EMERGENCY STOP TO PS
SW3 START
J42 11
J42 12
J36 14
J36 15
J36 8
J36 13
15XC
POT HI
STAK PAK
(PART OF SW3)
+15
CONNECTORS J36 & J51 ARE ON DIFFERENT ENDS OF A RIBBON CABLE
J51 14
J51 15
J51 8
J51 13
J37 14
J37 15
J37 12
J37 13
MERLIN 15XC START (MOM) TO PS
STAK PAK POT HI FROM PS
START LED(GREEN) SIGNAL FROM POWER SUPPLY
POWER SUPPLY ENABLE OFF (STAK ONLY)
J37 19
CHASSIS GROUND
J36 18
J36 16
J36 17
J51 18
J51 16
J51 17
J37 21
J37 22
J37 20
MERLIN 15XC 28VAC CT FROM PS
STAK PAK 36 VAC CT FROM PS
POT LOW
STAK PAK
J36 4
J36 5
J51 4
J51 5
J37 16
J37 17
MERLIN 15XC STOP (MOM) TO PS
STAK PAK POT LOW FROM PS
J36 9
J36 10
J51 9
J51 10
J37 1
J37 2
CURRENT CONTROL TO PS
J36 11
J36 12
J51 11
J51 12
J37 3
J37 4
SHUNT SIGNAL FROM PS
ISOLATION FOR STANDOFF CONTROL
PARTIAL CONNECTOR PCB
J36 3
J36 19
J51 3
J51 19
J37 24
J37 25
START/STOP TO PS
K3
K4
J36 6
J36 7
J51 6
J51 7
J37 10
J37 11
OK TO MOVE FROM PS
+15V
K4 DELAYED OK TO MOVE (PIERCE DELAY)
K2
SW7
RUN
PURGE
SW8
LOW
HI
J36 1
J36 2
J51 1
J51 2
J37 30
J37 29
RUN/PURGE TO STAK PAK
HI/LOW SPEED TO STAK PAK
J50 13
J50 14
J50 5
J50 6
J50 23
J50 22
CONNECTORS J50 & J53 ARE ON DIFFERENT ENDS OF A RIBBON CABLE
J53 13
J53 14
J53 5
J53 6
J53 23
J53 22
KEY
PARTIAL CONNECTOR PCB
J31 12
J31 13
J31 7
J31 10
J31 11
J31 14
J31 6
SCS INSTALLED CABLE JUMPER
START TO POWER SUPPLY
OK TO MOVE FROM POWER SUPPLY
TO STANDOFF CONTROL (SC-5)
REMOTE CONTROL CHASSIS
REV
REVISIONS
DATE
RELEASE
1 OF 1
420798

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